

WHAT IS CLAIMED IS:

1. A method of oxidizing carbon monoxide in an air flowing in a structure forming a path comprising the steps of:

5 generating ozone for deodorizing an odor component in the air in an ozone generating area;

decomposing the generated ozone in an ozone decomposing area; and

10 adsorbing and carrying carbon monoxide generated through an incomplete combustion in a CO (carbon monoxide) adsorbing area;

wherein the ozone decomposing area and the CO adsorbing area are formed in a common oxidizing reaction area in which the carbon monoxide is oxidized by using active  
15 oxygen generated through the ozone decomposing step in the oxidizing reaction area.

2. A method of oxidizing carbon monoxide according to claim 1, wherein the ozone is generated, by a discharge type  
20 photocatalyst module, in the ozone generating area for eliminating the odor component, and the ozone decomposing area for decomposing the ozone is formed in the CO adsorbing area for adsorbing the carbon monoxide.

25 3. A method of oxidizing carbon monoxide in an air flowing through a ventilation path having a suction port and a

discharge port, comprising the steps of:

generating an ozone in an ozone generating area for  
generating the ozone in the ventilation path;

deodorizing an odor component in the air by the ozone  
5 generated in the ozone generating area;

decomposing the generated ozone into active oxygen in  
an ozone decomposing area disposed on a downstream side of  
the ozone generating area in the ventilation path; and

adsorbing and carrying carbon monoxide generated  
10 through an incomplete combustion in a CO (carbon monoxide)  
adsorbing area in the ventilation path;

wherein the ozone decomposing area and the CO  
adsorbing area are formed in a common oxidizing reaction area  
in which the carbon monoxide is oxidized by using an active  
15 oxygen generated through the ozone decomposition in the  
oxidizing reaction area.

4. An apparatus for oxidizing carbon monoxide in an air  
flowing in a structure forming a path, comprising:

20 an ozone generating member disposed in the path for  
generating an ozone for deodorizing an odor component in the  
air;

an ozone decomposing member disposed in the path for  
decomposing the ozone for generating an active oxygen; and

25 a CO (carbon monoxide) adsorbing member disposed in  
the path for adsorbing and carrying carbon monoxide

generated through an incomplete combustion;

wherein the ozone decomposing member and the CO adsorbing member are disposed in a common oxidizing reaction area so as to oxidize the carbon monoxide by the active oxygen.

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5. An apparatus for oxidizing carbon monoxide according to claim 4, wherein the ozone generating member comprises at least one of a discharge type photocatalyst module, an ultraviolet lamp device, a corona discharge device and a creeping discharge device, which is disposed on an upstream side of the ozone decomposing member and the CO adsorbing member in the air flow path.

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6. An apparatus for oxidizing carbon monoxide according to claim 4, the ozone decomposing member and the CO adsorbing member are formed as a porous member having a honeycomb structure or a three dimensional mesh structure, and a CO adsorbing area formed by the CO adsorbing member is provided in an ozone decomposing area formed by the ozone decomposing member so as to provide a common CO oxidizing reaction area.

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7. An apparatus for oxidizing carbon monoxide according to claim 6, wherein the porous member is composed of at least one kind of a compound selected from the group consisting of alumina, silica, magnesia, silicon carbonate, and aluminum

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titanate, formed in a honeycomb structure or a three dimensional mesh structure, and the ozone decomposing member and the CO adsorbing member provided to the porous member so as to carry out an oxidizing reaction of the carbon monoxide.

8. An apparatus for oxidizing carbon monoxide according to claim 6, wherein the porous member is made of at least one ozone decomposing substance selected from the group consisting of an oxide of Mn, Cu, or Ni, a porous carbon containing Ni, Co, Mn, or Cu, a zeolite and a clay mineral so as to provide a honeycomb structure or a three dimensional mesh structure to which fine particles constituting the CO adsorbing member are carried.

9. An apparatus for oxidizing carbon monoxide according to claim 4, wherein the CO adsorbing member is composed of fine particles of at least one platinum based precious metal selected from the group consisting of platinum, iridium, osmium, palladium, rhodium, and ruthenium, and said fine particles are carried by an ozone decomposing substance constituting the ozone decomposing member so as to provide a common CO oxidizing reaction area.

10. An apparatus for oxidizing carbon monoxide according to claim 9, wherein the platinum based precious metal fine

particles each has a particle size of 10 Å to 1,000 Å.

11. An apparatus for oxidizing carbon monoxide according to claim 4, further comprising a pre-filter disposed on the air suction port side in the air flow path for removing coarse particles in the air and at least one blower disposed on a downstream side of the pre-filter in the air flow path.

12. An apparatus for oxidizing carbon monoxide according to claim 11, further comprising an electric dust collector disposed on a downstream side of the pre-filter in the air flow path for removing fine coarse particles in the air.